

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

HEISER, David, E.
LEGAL PATENT RECORDS CENTER
4417 LANCASTER PIKE
Wilmington, DE 19805
ETATS-UNIS D'AMERIQUE

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing

(day/month/year)

24.03.2004

Applicant's or agent's file reference

BA9294PCT

IMPORTANT NOTIFICATION

International application No.

PCT/US 03/04881

International filing date (day/month/year)

19.02.2003

Priority date (day/month/year)

20.02.2002

Applicant

E.I. DU PONT DE NEMOURS AND COMPANY et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

EEL NOTED

20 AUG 2004

Name and mailing address of the international preliminary examining authority:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Authorized Officer

Parriche, S

Tel. +49 89 2399-7890



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Article 36 and Rule 70)

Applicant's or agent's file reference BA9294PCT		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)
International application No. PCT/US 03/04881	International filing date (<i>day/month/year</i>) 19.02.2003	Priority date (<i>day/month/year</i>) 20.02.2002
International Patent Classification (IPC) or both national classification and IPC A01N25/00		
Applicant E.I. DU PONT DE NEMOURS AND COMPANY et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

I ☒ Basis of the opinion

II ☐ Priority

III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability



IV ☐ Lack of unity of invention

V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

VI ☐ Certain documents cited

VII ☐ Certain defects in the international application

VIII ☐ Certain observations on the international application

Date of submission of the demand 17.09.2003	Date of completion of this report 24.03.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Romano-Götsch, R Telephone No. +49 89 2399-8874 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/US 03/04881**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-17 as originally filed

Claims, Numbers

1-14 as originally filed

Drawings, Sheets

1/4-4/4 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/US 03/04881**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	9, 12, 13
	No: Claims	1-8, 10-11, 14
Inventive step (IS)	Yes: Claims	
	No: Claims	1-14
Industrial applicability (IA)	Yes: Claims	1-14
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The following documents cited in the ISR are referred to in this communication:

- D1: Garabedian, s. et al, Plant Disease, (1985),69(2), 138-140
- D2: Schipke, L.G. and Ramsey,M.D., Austr. Journal of Neomatology,(1994),34(1),109-114
- D3: Vrain, T.C., and Keng, J.C.,Canadian Journal of Plant Pathology, (1986),8(1), 97-101
- D4: Heungens, A. and Buysse G., Mededelingen Faculteit Landbowkundige en Toegepaste Biologische Wetens, (1996), 61(3A), 859-863
- D5: Apt, W.J., Journal of Nematology, (1981)13(4), 430
- D6: Westerdahl,B.B., et al., Journal of Nematology, (1993),25(4Suppl), 758-767
- D7: Royer, T.A., et al., Pesticide Science,(1989)25(3),231-240

A method for protecting crop plants as according to the presently claimed matter seems to be already known in the art, as indicated below.

D1 describes the serial application of aldoxycarb, carbosulfan, carbofuran and oxamyl through drip-irrigation for the control of *Meloidogyne incognita* on tomatoes. Chemicals were placed in PVC injectors through a low-pressure drip-irrigation system and applied at 1.68 kg a.i./ha every **2 weeks** (total of 5.04 kg a.i./ha) or at 0.37 kg a.i./ha every **3 or 6 days** (total of 2.22 kg a.i./ha). As a result of the treatments, significant reductions in root gall ratings were observed, with substantial increases in tomato yield.

D2 describes the application Fenamiphos emulsifiable concentrate through micro-irrigation for the control of *Radopholous similis* on banana crops. According to D2, the nematicide was incorporated into the water of the irrigation system by means of PVC applicators (see p.110, left column). The treatment is applied **monthly** to the crop.

D3 discloses a method for controlling *Pratylenchus penetrans* in raspberries cultures, consisting of irrigating the crop with water plus a nematicide (fenamiphos or carbofuran). The chemical is injected into the trickle system by means of an administering pump. The applications of nematicide were made **once in spring March, then three times in summer and fall**.

D4 describes a method for controlling *Frankliniella occidentalis* on *Verbena hybrida* by irrigation of systemic insecticides, which are previously added to the irrigation water. The insecticides used were acephate, methamidophos, omethoate, aldicarb, oxamyl, carbofuran and methomyl. The pesticide treatments consisted of **three irrigations in one week** of 100 ppm active ingredient with an interval of two days between the applications (see p.862 , -Resumé-).

D5 describes the **monthly** application by drip-irrigation of oxamyl and fenamiphos for the first 16 months of growth of pineapple in Hawaii, for controlling the reniform nematode.

D6 discloses a method for controlling *Pratylenchus penetrans* in oriental lilies, consisting of irrigating the crop with water plus a nematicide (oxamyl, ethoprop). Multiple application of chemical by drip irrigation with monthly intervals (see p. 764 Table 3).

D7 describes the effect of pesticide delivery on the efficacy of equivalent rates of several insecticides, in particular by comparing broadcast foliar sprays to applications via drip irrigation in bell peppers, celery potato and cantaloupe. The results in D7 show that oxamyl applied through the drip line controlled green peach aphids and suppressed populations of the western potato leafhopper.

In summary, in view of the D1-D7, the subject-matter of claims 1-8, 10-11, 14 does not seem to meet the requirements of novelty according to Art. 33(2) PCT.

The subject-matter of claims 9, 12, 13 seems to be novel over D1-D7.

In view of the above objection, an inventive step for claims 1-8, 10-11 and 14 cannot be acknowledged (Art. 33(3) PCT).

Furthermore, D2 and D3 teach that the serial application of crop protection agents as presently claimed (e.g. by drip irrigation with certain intervals between applications) offers a series of advantages vs. either granular or foliar application of crop protection agents, namely delivery directly into the wetted soil, reduced risk to operators from exposure to toxic chemicals (see D2 p.113, right column), reduced phytotoxicity, reduced contamination of ground water (D3 p.100, right column). Thus, D2 and D3 provide a strong hint to try the method to control fungal pathogens. Therefore an inventive step for claims 9, 12-13 cannot be acknowledged.

When entering the European regional phase, the documents D1-D7 should be identified in the description and the relevant background art disclosed therein should be briefly discussed, so as to meet the requirements of Rule 5.1(a)ii. PCT,.